

/CE--; and

at reference numeral 27, replace "P/P" with -- P/R--.

In Figure 6, replace "IC7" with --IC4--;

at reference numeral 23, replace "/CC" with --/CE--; and

at reference numeral 27, replace "P/P" with -- P/R--.

In Figure 7C, in the area designated by reference numeral 109, replace "MC78L05C" with --MC7805CT--.

In Figure 8C, in the area designated by reference numeral 201, on the line above reference letter "B", and above line A1 at "VCCD", insert --IC5--.

In Figure 9C, in the area designated by reference numeral 201, on the line above reference letter "B", and above line A1 at "VCCD", insert --IC6--.

IN THE CLAIMS:

[Please amend Claim 1, at line 2, by replacing "a" with --an--; at line 11, by deleting "model"; and at line 14, by replacing "re-producing" with --reproducing--.

Please amend Claim 4, at line 5, by replacing "on board" with --on-board--.

Not in paragraph form. Please amend Claim 7, at line 7, by replacing "on board" with --on-board--.

Entered to the CPO only. Please amend Claim 8, at line 2, by replacing "addressed" with --address--; and at line 6, by replacing "on board" with --on-board--.

Marginal notes Please amend Claim 9, at line 3, by replacing "units" with --unit's--; and

Not entered

at line 6, by replacing "on board" with --on-board--.

Please amend Claim 12, at lines 4 and 10, by replacing "on board" with --on-board--.]

Please add new Claims 21-50 as follows:

21. A sound reproducing system for a model train traveling on a plurality of rails that use an amplified digital control signal for propulsion and control, the system comprising:
a sound unit

a memory within the sound unit wherein the memory stores a plurality of sound effects at addresses wherein the sound effects contain multiple samples that emulate a train locomotive at various conditions; and

a controller connected to the memory for recalling at least one of the sound effects wherein the controller is controlled by a digital signal.

[22. The system of Claim 21 wherein the sound effects are at pre-determined addresses.

23. The system of Claim 21 wherein the controller recalls a plurality of sound effects.

24. The system of Claim 23 wherein the plurality of sound effects are recalled in a predetermined sequence.

25. The system of Claim 23 wherein the plurality of sound effects are recalled in a random sequence.

26. The system of Claim 21 wherein the various conditions include various speeds.

27. The system of Claim 21 wherein the various conditions include various workloads.

28. The system of Claim 21 wherein the memory includes a plurality of special effects stored therein and further wherein the

model train includes a motor wherein the controller controls the motor.

29. The system of Claim 21 wherein the digital signal is a bi-polar digital signal.

30. The system of Claim 21 wherein the digital signal is a digital packet wherein the digital packet triggers the sound effect.

31. The system of Claim 21 further comprising:
an electrical power supply connected to at least one of the plurality of rails;

a pick-up means for collecting the digital signal; and
a full-wave bridge rectifier connected to the electrical power supply and further having an input for receiving the digital signal and an output wherein the output produces a DC signal without regard to phase of the digital signal.

32. The system of Claim 21 wherein the memory includes a plurality of special effects stored therein and further wherein the model train includes a motor and means for simultaneously decoding the digital signal for control of the sound effects, the motor and/or the special effects.

33. The system of Claim 21 further comprising:
a fixed external source of electrical power;
means for connecting the digital signal to the sound memory;
and
means for filtering the digital signal.

34. The system of Claim 21 further comprising:
a speed sync sensor in the controller wherein the controller recalls a plurality of speed sensitive sounds to emulate a speed of the train locomotive based on a speed of the model train wherein

~~the speed sync sensor synchronizes the speed sensitive sounds with the speed of the model train.~~

35. The system of Claim 21 wherein the controller recalls the sound effects in an asynchronous manner.

36. The system of Claim 21 further comprising:

a second memory for storing the plurality of sound effects.

37. The system of Claim 21 further comprising:

a discrete address in the range of 1 to 127 contained within the sound unit wherein the digital signal includes a three byte packet wherein the three byte packet includes an address header that matches the discrete address.

38. The system of Claim 21 further comprising:

a discrete address in the range of 1 to 9999 contained within the sound unit wherein the digital signal includes a four byte packet wherein the four byte packet includes an address header that matches the discrete address.

39. The system of Claim 21 further comprising:

wheels on the model train;

a digital packet within the digital signal for controlling a speed of the model train; and

means for synchronizing the plurality of sound effects to the wheels of the model train wherein the synchronization means decodes the digital packet and further wherein the synchronization means determines which sound effect to synchronize with the speed of the model train using the digital packet.

40. The system of Claim 21 wherein the memory includes a plurality of special effects stored therein and further wherein the model train includes a motor and further wherein the model train includes a microcontroller that decodes a digital signal for

control of the sound effects, the motor and/or the special effects.

41. The system of Claim 21 wherein the memory includes a plurality of special effects stored therein wherein the special effects include a lighting special effect and further wherein the controller controls the special effects.

42. The system of Claim 40 wherein the plurality of sound effects has a volume controlled by the micro-controller.

43. The system of Claim 40 wherein the sound effects are divisible by 14, 28 or 128 speed steps controlled by the micro-controller.

44. The system of Claim 40 wherein the micro-controller is programmed to control the sound effects.

45. The system of Claim 21 wherein the sound effects are digitized.

46. The system of Claim 21 further comprising:
a microphone on the sound unit for recording an additional sound effect.

47. The system of Claim 21 further comprising:
an activation means for activating the sound effect wherein the activation means is a magnetically responsive sensor.

48. The system of Claim 21 further comprising:
means for controlling a variable filter network wherein the variable filter network suppresses audible noise.

49. The system of Claim 21 wherein the sound effects include a sample that emulates a train locomotive at multiple speeds.

50. The system of Claim 21 wherein the stored sound effects are analog.

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21. A sound reproducing system for a model train traveling on a plurality of rails that uses an amplified digital control signal for propulsion and control, the system comprising:

a sound unit;
a memory within the sound unit wherein the memory stores a plurality of sound effects at addresses wherein the sound effects contain multiple samples that emulate a train locomotive at various conditions; and

a controller connected to the memory for recalling at least one of the sound effects wherein the controller is controlled by a digital signal.

22. The system of Claim 21 wherein the sound effects are at pre-determined addresses.

23. The system of Claim 21 wherein the controller recalls a plurality of sound effects.

24. The system of Claim 23 wherein the plurality of sound effects are recalled in a predetermined sequence.

25. The system of Claim 23 wherein the

plurality of sound effects are recalled in a random sequence.

26. The system of Claim 21 wherein the various conditions include various speeds.

27. The system of Claim 21 wherein the various conditions include various workloads.

28. The system of Claim 21 wherein the memory includes a plurality of special effects stored therein and further wherein the model train includes a motor wherein the controller controls the motor.

29. The system of Claim 21 wherein the digital signal is a bipolar digital signal.

30. The system of Claim 21 wherein the digital signal is a digital packet wherein the digital packet triggers the sound effect.

31. The system of Claim 21 further comprising:

an electrical power supply connected to at least one of the plurality of rails;

a pick-up means for collecting the digital signal; and

a full-wave bridge rectifier connected to

the electrical power supply and further having an input for receiving the digital signal and an output wherein the output produces a DC signal without regard to phase of the digital signal.

32. The system of Claim 21 wherein the memory includes a plurality of special effects stored therein and further wherein the model train includes a motor and means for simultaneously decoding the digital signal for control of the sound effects, the motor and/or the special effects.

33. The system of Claim 21 further comprising:

a fixed external source of electrical power;
means for connecting the digital signal to the sound memory; and
means for filtering the digital signal.

34. The system of Claim 21 further comprising:

a speed sync sensor in the controller wherein the controller recalls a plurality of speed sensitive sounds to emulate a speed of the train locomotive based on a speed of the model

train wherein the speed sync sensor synchronizes the speed sensitive sounds with the speed of the model train.

35. The system of Claim 21 wherein the controller recalls the sound effects in an asynchronous manner.

36. The system of Claim 21 further comprising:

a second memory for storing the plurality of sound effects.

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a discrete address in the range of 1 to 9999 contained within the sound unit wherein the digital signal includes a four byte packet wherein the four byte packet includes an address header that matches the discrete address.

39. The system of
Claim 21 further
comprising:

wheels on the
model train;

a digital packet
within the digital
signal for controlling
a speed of the model
train; and

means for
synchronizing the
plurality of sound
effects to the wheels
of the model train
wherein the
synchronization means
decodes the digital
packet and further
wherein the
synchronization means
determines which sound
effect to synchronize
with the speed of the
model train using the
digital packet.

40. The system of
Claim 21 wherein the
memory includes a
plurality of special
effects stored therein
and further wherein the
model train includes a
motor and further
wherein the model train
includes a micro-
controller that decodes
a digital signal for
control of the sound
effects, the motor
and/or the special
effects.

41. The system of
Claim 21 wherein the
memory includes a
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Claim 21 wherein the
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Claim 21 wherein the
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